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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,637	12/02/2003	Herve Michaud	2003-1732A	2003

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EXAMINER	
YEE, DEBORAH	
ART UNIT	**PAPER NUMBER**
1742	

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,637	MICHAUD ET AL.	
	Examiner	Art Unit	
	Deborah Yee	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 to 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bellus (US patent 5,820,706) in view of Heffron et al (US Patent 4044638) for the reasons set forth in the previous office action dated 12-28-05.

Response to Arguments

3. Applicant's arguments filed 10-28-05 have been fully considered but they are not persuasive.

4. It is the examiner's position that Bellus discloses a method of fabricating a steel part for automotive components by subjecting metal blank to forging and cooling which meets the recited claims except fails to include the additional step of mechanical reinforcing (e.g. by burnishing). It would, however, be an obvious step to incorporate since it is a standard conventional finishing step well known in the art when producing crankshafts for automobiles, as taught by Heffron on lines 10 to 37 in column 1.

5. It was argued that "burnished", as discussed by Heffron does not refer to a mechanical reinforcing operation, but rather a machining operation which aims at making the bearing surface as smooth as possible. In contrast, applicants' use of the word "burnishing" refers to mechanical reinforcing performed with rolls which cause high

compressive mechanical residual stresses and surface hardening. It is the examiner's position that Heffron teaches burnishing which would be patentably equivalent to the mechanical reinforcing step of burnishing recited by claim 14 since the technique of using rollers on forging surface are the same. Although Heffron does not teach burnishing to cause high compressive mechanical residual stress and a surface hardening, such would not be a patentable difference since such limitation is not actively recited by the claims. Also even if residual stress and surface hardening were actively recited by the claims, such limitation would not be a patentable distinction . Note that the admitted prior art on pages 1 and 2 of applicants' specification discloses that it is conventional practice well known in the metallurgical art to subject steel crank shaft forgings to burnishing in high stress concentration areas to harden and strengthen and to improve fatigue performance. Hence to incorporate burnishing as a finishing step for Bellus as taught by admitted prior art would be an obvious modification well within the skill of the artisan and productive of no new and unexpected results.

6. Applicants stated that Bellus steel does not teach a composition with 0.005 to 0.06%Nb, 0.005 to 0.04%Ti, where the Ti content is equal to at least 3.5 times the N and 5 to 50ppm of B. It is the examiner's position that Bellus on lines 1 to 2 and 25 to 35 of column 5 discloses steel examples having a composition which meets the recited claims. Also similar to the present invention, Bellus does not teach N as an alloying constituent, and therefore would be present at an inevitable impurity level kept as low as possible since it would be an undesirable element. Hence having Ti amounts equal to at least 3.5 times the N content of the steel as recited by the claims would be expected

by prior art alloy because it contains a high Ti content of 0.005 to 0.03% and a low impurity N level .

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Deborah Yee
Primary Examiner
Art Unit 1742

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